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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/746,010	12/21/2000	Chih-Hsien Weng	JCLA4345	2260

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J.C. Patents, Inc.  
Suite 250  
4 VENTURE  
Irvine, CA 92618

EXAMINER
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KADING, JOSHUA A

ART UNIT	PAPER NUMBER
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2661

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DATE MAILED: 03/08/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/746,010

Applicant(s)

WENG ET AL.

Examiner

Joshua Kading

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☒ Claim(s) 1, 3, 4, 7, and 8 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 December 2000 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_.
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: \_\_\_\_.

## DETAILED ACTION

### *Drawings*

Figure 2 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). A proposed drawing correction  
5 or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

### *Claim Objections*

Claims 1, 3, 4, 7, and 8 are objected to because of the following informalities:

10 Claim 1, line 11 states, "forwarding the remained". It should be changed to --forwarding the remaining--.

Claim 3, line 2 should have to comma removed. It should be changed to "interrupt signal when..."

15 Claim 4, line 2 states, "interrupt signal, when data amount". It should be changed to --interrupt signal when the data amount--.

Claim 4, line 3 states, "buffer excesses". It should be changed to --buffer exceeds--.

Claim 7, line 1 states, "the controller performing". It should be changed to --the controller performs--.

20 Claim 8, line 2 states, "handling each received packet". It should be changed to --handling a plurality of received packets--.

Claim 8, line 13 states, "retrieving the packet stored in the data buffer". For clarity, it should be changed to --retrieving a stored packet from the data buffer--.

Claim 8, line 14 states, "the packet indicate". It should be changed to --the packet indicates--.

5 Claim 8, line 16 states, "the remained packet data stored in the data buffer". For clarity, it should be changed to --the remaining stored packet data from the data buffer--.

Claim 8, line 17 states "the packet indicate". It should be changed to --the packet indicates--.

10 Claim 8, line 23 states, "the remained packet". It should be changed to --the remaining packet--.

Appropriate correction is required.

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

15 The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 8 and 9 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which  
20 applicant regards as the invention.

Claim 8 recites the limitation "the [remaining] packet data" in line 23. There is insufficient antecedent basis for this limitation in the claim.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

5 (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10 Claims 1-3, and 5-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over White et al. (U.S. Patent 5,477,541) in view of applicant's admitted prior art.

In regard to claim 1, White discloses "a packet receiving method for use on a packet-switching network for handling each received packet, comprising the steps of:

15 allocating a descriptor and a data buffer, the descriptor for recording a link status between the descriptor and the data buffer and a reception status of a packet, and the data buffer for storing the packet, and the size of the data buffer being fixed (figure 20, elements 48A and 52A; figure 24, element "buffer address" and "amount of data" indicates the receipt of data since it holds the value of the amount of data received; col. 14, lines 6-7; col. 15, lines 9-25; col. 2, lines 39-41 shows the fixed buffer size)..."

20 However, White lacks "...activating an early interrupt mode and setting a threshold value; dividing the data buffer according to the threshold value, and setting an early receiving interrupt signal and a ready interrupt signal according to the threshold value; in response to the early receiving interrupt signal, reading the packet stored in the data buffer; and in response to the ready interrupt signal, retrieving and forwarding  
25 the remained packet data."

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Applicant's admitted prior art however, further discloses "...activating an early interrupt mode and setting a threshold value (specification, page 3, lines 6-9 where the length of the packet is the threshold value); dividing the data buffer according to the threshold value (specification, page 3, lines 8-9 by storing the packet in the buffer, the  
5 buffer has been divided according to the threshold value or the packet's length), and setting an early receiving interrupt signal and a ready interrupt signal according to the threshold value (specification, page 3, lines 6-24 where it is suggested that the ER signal is asserted so that the data from the buffer may be read and the OK interrupt signal acts as the ready interrupt signal); in response to the early receiving interrupt  
10 signal, reading the packet stored in the data buffer (specification, page 3, lines 6-24 where the data is being read from the buffer as per the ER signal); and in response to the ready interrupt signal, retrieving and forwarding the [remaining] packet data (specification, page 3, lines 21-24)."

It would have been obvious to one with ordinary skill in the art at the time of  
15 invention to include the interrupts with the descriptor and data buffer for the purpose of receiving and transmitting all the required data at appropriate times. The motivation being the ability to access the desired data and forward it when necessary.

In regard to claim 2, White and applicant's admitted prior art disclose "the method  
20 of claim 1". However, White lacks "performing a write-back operation on the descriptor after all the packet data stored in the data buffer have been forwarded so as to reset the descriptor." Applicant's admitted prior art however, further discloses "performing a

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write-back operation on the descriptor after all the packet data stored in the data buffer have been forwarded so as to reset the descriptor (specification, page 3, lines 11-13).” It would have been obvious to one with ordinary skill in the art at the time of invention to include the write-back operation with the method of claim 1 for the same reasons and  
5 motivation as in claim 1.

In regard to claim 3, White and applicant’s admitted prior art disclose “the method of claim 1”. However, White lacks “asserting the ready interrupt signal when the whole packet has completely been moved to the data buffer.” Applicant’s admitted prior art  
10 however, further discloses “asserting the ready interrupt signal when the whole packet has completely been moved to the data buffer (specification, page 3, lines 21-24).” It would have been obvious to one with ordinary skill in the art at the time of invention to include the asserting of the ready interrupt signal with the method of claim 1 for the same reasons and motivation as in claim 1.

15 In regard to claim 5, White and applicant’s admitted prior art disclose “the method of claim 1”. However, applicant’s admitted prior art lack “the packet-switching network is Ethernet.” White however, further discloses “the packet-switching network is Ethernet (col. 2, lines 38-39).” It would have been obvious to one with ordinary skill in the art at  
20 the time of invention to include the Ethernet with the method of claim 1 for the same reasons and motivation as in claim 1.

Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over White et al. and applicant's admitted prior art as applied to claim 1, and further in view of Smith (U.S. Patent 5,400,326).

In regard to claim 4, White and applicant's admitted prior art disclose "the method of claim 1". However, White and applicant's admitted prior art lack "asserting the early receiving interrupt signal when [the] data amount of the packet already moved into the data buffer [exceeds] the threshold value". Smith however, discloses "asserting the early receiving interrupt signal when [the] data amount of the packet already moved into the data buffer [exceeds] the threshold value (figure 3 when the "memory threshold" is exceeded, the frame or packet is read (as described in claim 1 using the early receiving interrupt signal) from the receive buffer to the system memory)". It would have been obvious to one with ordinary skill in the art at the time of invention to include the reading of data in the buffer with the method of claim 1 for the purpose of making room in the buffer for the incoming data. The motivation being that if room is not made, the data stored in the buffer has the potential to be overwritten and lost.

### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Firoozmand (U.S. Patent 5,136,582) discloses descriptor ring. Butler et al. (U.S. Patent 4,654,654) shows a control memory used to transmit data. Short (U.S. Patent 5,633,865) shows descriptors and buffers used in a LAN.



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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joshua Kading whose telephone number is (703) 305-0342. The examiner can normally be reached on M-F: 8:30AM-5PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Douglas Olms can be reached on (703) 305-4703. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Joshua Kading  
Examiner  
Art Unit 2661

JK  
February 27, 2004

  
**KENNETH VANDERPUYE**  
**PRIMARY EXAMINER**